

LUKACHrom N - instructions

NiCr Dental Casting Alloy for the Burn-On Technique Typ 3

LUKACHrom N is a very corrosion-stable, non-ferrous burn-on alloy based on NiCr. It possesses excellent mechanical properties and is appropriate for use as a burn-on alloy. It can be veneered with all dental ceramics which cover the WAK range from 13,9-14,4 µm/m-K (25 – 600 °C).

Processing only by qualified personnel.

LUKACHrom N meets the requirements of the EN ISO 22674:2007-02

CE 0481

Composition:	Technical Data:	NEM burn-on alloy	
Ni	62,0 %	Vickers hardness:	220 HV
Cr	25,0 %	Yield strength:	440 MPa
Mo	10,5 %	Elongation at break %:	8
Si	1,9 %	Elastic Modulus MPa	200.000
		Melting Range °C	1.210 – 1.300
		Density g/cc	8,2
		WAK value: (25 – 500 °C)	13.9 µm/m-K
		(25 – 600 °C)	14.4 µm/m-K
		Burnout Temperature °C	950-1.000
		Oxidation Procedure °C	980

Pinning: If the beam-casting method is not given preference, but instead single crown pinning is implemented, the casting channel (sprue) should have a diameter of 3 – 4 mm. In the beam casting method the following dimensions should be observed in the sprue systems. Sprue from the cone 3 – 4 mm diameter Transverse sprue (beam) 4 – 5 mm diameter Connection to crown 3 – 3.5 mm in diameter and 5 mm in length.

Investment: Any phosphate-bonded, graphite-free investment material that is suitable for alloys that melt at high temperatures can be used. If metallic muffle rings are used, an adequate, if necessary a multilayer, muffle lining is required.

For the investing process, the investment material's instructions for use are to be followed.

Required Quantity of Metal: The quantity of metal required for casting is calculated according to the following rule of thumb: "Wax weight of the mould multiplied by the alloy density (8.3 g/cm³) + 10g".

Melting procedure: LUKACHrom N can be melted with both the high-frequency procedure and with an open flame.

High-frequency procedure: The casting is initiated 3 – 5 seconds after complete melting.

Open-flame casting: To melt LUKACHrom N, the burner must be used such that the heat required for melting is uniformly distributed. The maximum burner setting is used.

Please comply with the burner manufacturer's instructions for use.

The alloy forms an oxide skin on melting. It must be further heated until the metal under the oxide skin moves visibly due to the flame pressure. Casting is initiated after 3 – 5 seconds.



Do not use any melting/flux powder.

Crucible materials: Only ceramic melting crucibles may be used to pour LUKACHrom N.

Elaboration: Carbide milling cutters are suitable for machining. Diamond tools should not be used. In all cases ensure that the tools are sharp. In principle the material should always be machined at high cutting speed and with low pressure.

The minimum wall thickness for LUKACHrom N is 0.4 mm and wall should not be thinner than this.

Ceramic Veneer: After removal from the mould the surface of the LUKACHrom N is roughened by intensive sandblasting with Al₂O₃ (250 µm) at a blasting pressure of 3 – 4 bar. Burning-on the ceramic is performed in accordance with the instructions for using the ceramic material used for the veneer.

Oxide Burning and Opaque Burning:

There is not a fundamental necessity for oxidising. The opaque burning is to make as manufacturers' instructions.

Cooling after Burning: It is generally advisable to allow normal cooling. In this manner, the ceramic is transformed into a tension-free state. Depending on the manufacturer, the ceramic is tempered at 850 °C for 3 minutes.

Reusing old material: Do not recast LUKACHrom N casting cone.

Side effects: Allergies to metals contained in the alloy as well as electrochemically conditioned dysesthesia are possible. In individual cases systemic side effects of metals contained in the alloy have been reported.

Interactions: Avoid occlusal and approximal contact of different alloy types.

Contraindications: Do not use in case of hypersensitivity to one or more of the metal constituents of the wire. **For dental use only.**

Keep locked up and out of the reach of children.

Warning!

LUKACHrom N contains nickel and chromium. There are maximum allowable concentrations (MAC values) for certain compounds containing these substances. Elaboration with rotating instruments should fundamentally be undertaken with object exhauster. Furthermore, we recommend wearing mouth guard and face shield. In cases of a known hypersensitivity to one of the components, this alloy should not be integrated or machined.



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